

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>						
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	6,112	6,418	32,139	39,240	5,486	0	9,771	24,398	TBD	TBD
4370 Advanced Weapons Integration (AWI)	2,332	3,681	0	0	0	0	0	0	0	9,755
4401 Air Force Mission Support System (AFMSS)	881	2,737	2,684	0	0	0	0	0	0	14,430
4402 Electronic Countermeasures Improvement (ECMI)	2,899	0	0	0	0	0	0	0	0	7,717
4810 Avionics Midlife Improvement (AMI)	0	0	29,455	39,240	5,486	0	9,771	24,398	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: RDT&E articles are not separately priced.

**(U) A. Mission Description**

The B-52 is the primary nuclear roled bomber in the USAF inventory. It provides the only Air Launch Cruise Missile carriage in the USAF. The B-52 also provides theater CINCs with a long range strike capability. The B-52 is undergoing a Conventional Enhancement Modification which allows it to carry MIL-STD 1760 weapons. The current service life of the aircraft extends to 2040. The Advanced Weapons Integration (AWI) program supports the conventional enhancement of the B-52 through the addition of the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint Air-to-Surface Stand-off Missile (JASSM). The Air Force Mission Support System supports the Air Force movement of all mission planning to a common system. Electronic Countermeasures Improvement program improves supportibility, increases memory, allows reprogrammability, and adds a new display for improved situational awareness and system control. The B-52's Avionics Midlife Improvement program is a new start that will replace insupportable mission critical parts of the Offensive Avionics System that control navigation and weapons delivery on the B-52. The B-52 program management is provided by Air Force Material Command's Oklahoma Air Logistics Center. The prime contractor for these projects is Boeing, McDonnell Defense in Wichita Kansas.

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Exhibit R-2 (PE 0101113F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE February 1999
BUDGET ACTIVITY <b>7 - Operational System Development</b>		PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>			
(U) <b>B. <u>Budget Activity Justification:</u></b> This program is in budget activity 7 - Operational System Development, because it supports a currently operational system.					
(U) <b>C. <u>Program Change Summary (\$ in Thousands)</u></b>					
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U) Previous President's Budget FY 1999 PB	3,235	6,436	2,733	0	TBD
(U) Appropriated Value	3,427	6,436			
(U) Adjustments to Appropriated Value					
a. Cong Reductions	-112	-18			
b. SBIR	-81				
c. Omnibus or Other Above Threshold Reprogram	-22				
d. Below Threshold Reprogramming	2,900				
(U) Adjustments to Budget Years Since FY 1999 PB			29,406	39,240	
(U) Current Budget Submit/ FY 2000 PB	6,112	6,418	32,139	39,240	TBD
(U) Significant Program Changes:					
FY1999: \$199 identified as a source for SBIR.					
(U) One new project initiated with this submission: Avionics Midlife Improvement (AMI) starting in FY00. See individual project description (Exhibits R-2/R-3) for details.					

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>					PROJECT <b>4370</b>	
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4370 Advanced Weapons Integration (AWI)	2,332	3,681	0	0	0	0	0	0	0	9,755
<p><b>(U) A. <u>Mission Description</u></b>            The requirement exists for the integration of near precision and precision guided MIL-STD 1760 weapons on the B-52. This includes the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint-Air-to-Surface Stand-off Missile (JASSM). The B-52 is designated as the threshold bomber test platform for WCMD, JDAM, and JASSM with the objective of meeting aircraft integration and weapon testing requirements. To provide complete understanding of the program and its funding, the following schedule information in section C will reflect the money received from the WCMD, JDAM, and JASSM program elements for weapons integration on the B-52.</p> <p><b>(U) <u>FY 1998 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$622 Continue Software development for JSOW and JASSM</li> <li>– (U) \$241 Continue Hardware development for JSOW and JASSM</li> <li>– (U) \$1,469 Initiate Flight/Ground Testing</li> <li>– (U) \$2,332 Total</li> </ul> <p><b>(U) <u>FY 1999 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$2,380 Continue Software development for JSOW and JASSM</li> <li>– (U) \$114 Identified as a source for SBIR</li> <li>– (U) \$1,187 Flight/Ground Testing</li> <li>– (U) \$3,681 Total</li> </ul> <p><b>(U) <u>FY 2000 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$0 Total</li> </ul>										

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Exhibit R-2A (PE 0101113F)

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>				PROJECT <b>4370</b>		
(U) <u>FY 2001 (\$ in Thousands):</u> – (U) \$0 – (U) \$0                      Total										
(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u> Not applicable</b>										
(U) <b>C. <u>Other Program Funding Summary (\$ in Thousands)</u></b>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) Aircraft Procurement (PE 11113F)	5,304	1,096	479	964	0	0			0	13,048
(U) <b><u>Related Activities</u></b>										
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
(U) RDT&E (WCMD - PE 27600F)	310	0	0	0	0	0	0	0	0	9,800
(U) RDT&E (JDAM - PE 27583F)	1,500	0	0	0	0	0	0	0	0	4,000
(U) RDT&E (JASSM - PE 27160F)	6,800	3,457	6,220	0	0	0	0	0	0	24,977
(U) TDT&E (JSOW - PE27324F)	250	0	0	0	0	0	0	0	0	250
(U) <b>D. <u>Acquisition Strategy</u></b>										
The AWI program placed Boeing Military Programs – Wichita Division, on a Cost-Plus-Fixed-Fee contract as the Product Development Organization supported by OC-ALC/LH. Due to a short notice requirement, interface development and initial software requirements definition was accomplished under the B-52 fleet support contract; a time and materials contract. AWI development is in two phases. The first phase supports WCMD and JDAM Stores Management Overlay (SMO) development, interface hardware development and Development Test and Evaluation (DT&E). The second phase supports JSOW and JASSM SMO development and DT&E. Due to the need for early Required Assets Availability and Initial Operational Capability, the Single Acquisition and Management Plan (SAMP) authorized concurrent development of software as the interface hardware (MIL-STD 1760 umbilicals and pylon attachments) transitioned to production. Although, development of SMOs for JSOW and JASSM will continue after the hardware design has been developed, the hardware design will be complete and compatible with all advance weapons.										
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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>												DATE <b>February 1999</b>					
BUDGET ACTIVITY <b>7 - Operational System Development</b>						PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>						PROJECT <b>4370</b>					
<b>(U) E. <u>Schedule Profile</u></b>																	
		<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
(U) JDAM/WCMT SMO																	
(U) Software/hardware Req DT&E	X				*												
(U) Test Planning	X				*												
(U) Technical data development	X				*												
(U) Ground/flight testing	X					*											
(U) AFMSS module DT&E	X					*											
(U) Program office support	X					*											
(U) JSOW/JASSM SMO																	
(U) Contractor Interface Development	X							*									
(U) Software/hardware Req DT&E	X												*				
(U) Test planning	X												*				
(U) Technical data development	X																*
(U) Ground/flight testing	X																*
(U) AFMSS module DT&E	X																*
(U) Program support office	X																*

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999				
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>				PROJECT <b>4370</b>			
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
				<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
(U)	Software/hardware requirements			2,332	3,567	0	0				
(U)	Identified as a source for SBIR				114						
(U)	Total			2,332	3,681	0	0				
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Identified as a source for SBIR						114					
<u>Product Development Organizations</u>											
Boeing, ISDS,											
Wichita, KS	CPFF	4 Sep 97	5,254	0	2608	266	2,380	0	0	0	5,254
88CG/SCCVO	Project Order	13 Mar 96	2	0	2	0	0	0	0	0	2
<u>Support and Management Organizations</u>											
OC-ALC/LH	PMA	1 Oct 96	0	242	172	20	50	0	0	0	242
OC-ALC/LAS	Project Order	16 Jul 97	1327	0	750	577	0	0	0	0	1327
AEDC/DOF	Project Order	3 Jun 97	48	0	48	0	0	0	0	0	48
PEO/PMA-201	MIPR		75	0	0	0	75	0	0	0	75
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101113F B-52 Squadrons					PROJECT 4370	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Test and Evaluation Organizations											
419 FLTS	Project Order	31 Jan 96	2,683	0	152	1,469	1,062	0	0	0	2,683
49 Tests	AF Form 616	31 Aug 96	10	0	10	0	0	0	0	0	10
Government Furnished Property: None											
Identified as a source for SBIR			114				114				114
Subtotal Product Development			5,256	0	2,610	266	2,380	0	0	0	5,256
Subtotal Support & Management			1,450	242	970	597	125	0	0	0	1,692
Subtotal Test and Evaluation			2,693	0	162	1469	1,062	0	0	0	2,693
Total Project			9,513	242	3,742	2,332	3,681	0	0	0	9,755

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<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>				<b>PE NUMBER AND TITLE</b> <b>0101113F B-52 Squadrons</b>				<b>PROJECT</b> <b>4401</b>		
<b>COST (\$ In Thousands)</b>	<b>FY 1998 Actual</b>	<b>FY 1999 Estimate</b>	<b>FY 2000 Estimate</b>	<b>FY 2001 Estimate</b>	<b>FY 2002 Estimate</b>	<b>FY 2003 Estimate</b>	<b>FY 2004 Estimate</b>	<b>FY 2005 Estimate</b>	<b>Cost to Complete</b>	<b>Total Cost</b>
4401 Air Force Mission Support System (AFMSS)	881	2,737	2,684	0	0	0	0	0	0	14,430

  

**(U) A. Mission Description**  
 B-52 Air Force Mission Support System (AFMSS) was previously funded out of the AFMSS program element prior to FY98. The project develops aircraft/weapons/electronic (A/W/E) countermeasures modules to be used in conjunction with the core software modules to provide a Mission Planning Environment for planning B-52 missions. AFMSS is the replacement system for the current Mission Data Preparation System (MDPS), the legacy system used for B-52 SIOP capability. Block 1 provided the capability to plan conventional gravity missions at the unit level. Block 2 is Y2K compliant and provides the capability to plan JDAM and WCMD missions. It also adds IU/TRS capability. Block 3 adds planning capability for AGM-84 and AGM-86C. Block 4 provides TRICOMS mission data import capability and allows the retirement of MDPS. Plus, it includes capability to plan the AGM-142, JSOW and JASSM. Block 5 will enable migration of the mission planning capability to the Joint Mission Planning System (JMPS).

  

**(U) FY 1998 (\$ in Thousands):**

- (U) \$601 Initiate Block 3 operational software
- (U) \$280 Complete Block 2 operational software
- (U) \$881 Total

  

**(U) FY 1999 (\$ in Thousands):**

- (U) \$85 Identified as a source for SBIR
- (U) \$427 Complete operational test and installation of Block 2 software
- (U) \$1,125 Initiate Block 4 operational requirements
- (U) \$1,100 Continue Block 3 operational software
- (U) \$2,737 Total

  

**(U) FY 2000 (\$ in Thousands):**

- (U) \$583 Initiate Block 5 operational requirements for migration to JMPS
- (U) \$800 Complete Block 3 operational software test and installation
- (U) \$1,301 Complete Block 4 operational software test and installation
- (U) \$2,684 Total

  

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BUDGET ACTIVITY <b>7 - Operational System Development</b>	PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>	PROJECT <b>4401</b>																																																																																																																																							
<p>(U) <u>FY 2001 (\$ in Thousands):</u>          – (U) \$0                      Total</p> <p>(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u></b> Not applicable</p> <p>(U) <b>C. <u>Other Program Funding Summary (\$ in Thousands):</u></b> Not applicable</p> <p>(U) <b>D. <u>Acquisition Strategy</u></b>          The AFMSS program is organically conducted at OC-ALC/LAS. Previously funded by the AFMSS program element.</p> <p>(U) <b>E. <u>Schedule Profile</u></b>          The B-52 peculiar mission planning software development is accomplished and delivered incrementally. Each work package within a block build is treated as a mini-development with its own analysis, design, and test. The work package are integrated with one another and with the AFMSS core.</p> <table style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <thead> <tr> <th></th> <th colspan="3" style="text-align: center;"><u>FY 1998</u></th> <th></th> <th colspan="3" style="text-align: center;"><u>FY 1999</u></th> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2000</u></th> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2001</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Complete Block 2 development</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Software development Block 3</td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Contract award Block 4</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Software development Block 4</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Contract award Block 5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Software development Block 5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	(U) Complete Block 2 development	*																(U) Software development Block 3	X					*											(U) Contract award Block 4					X												(U) Software development Block 4					X						*						(U) Contract award Block 5									X								(U) Software development Block 5									X							
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE <b>February 1999</b>				
BUDGET ACTIVITY <b>7 - Operational System Development</b>					PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>				PROJECT <b>4401</b>		
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U) Identified as a source for SBIR						85					
(U) Software development					836	2,560	2,610	0			
(U) System Program Office support					45	92	74	0			
(U) Total					881	2,737	2,684	0			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Identified as a source for SBIR							85				
<u>Product Development Organizations</u>											
Oklahoma											
ALC/LAS	Project Order	26 Mar 97	10,786	0	4,780	836	2,560	2,610	0	0	10,786
<u>Support and Management Organizations</u>											
OC-ALC/LH	Project order	Oct 97	0	411	200	45	92	74	0	0	411
OC-ALC/LAP	Project order	Jun 97	3,053	0	3,053	0	0	0	0	0	3,053
<u>Test and Evaluation Organizations</u>											
419 <sup>th</sup>	DT&E	11 Dec 96	95	0	95	0	0	0	0	0	95
<b>Government Furnished Property: None</b>											
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101113F B-52 Squadrons					PROJECT 4401	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Identified as a source for SBIR			85				85				85
Subtotal Product Development			10,786	0	4,780	836	2,560	2,610	0	0	10,786
Subtotal Support & Management			3,053	411	3,253	45	92	74	0	0	3,464
Subtotal Test and Evaluation			95	0	95	0	0	0	0	0	95
Total Project			14,019	411	8,128	881	2,737	2,684	0	0	14,430

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>					PROJECT <b>4402</b>	
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4402 Electronic Countermeasures Improvement (ECMI)	2,899	0	0	0	0	0	0	0	0	7,717
<p>(U) <b>A. <u>Mission Description</u></b></p> <p>The electronic countermeasures of the B-52 ALQ-172 ECM suite must be improved to cover a requirement identified during DESERT STORM. The improvement consists of engineering change proposal 93 (ECP 93) which provides for an increased memory capability and reprogrammability to handle advanced threats, and incorporation of a new controls and display unit (CDU) for increased situational awareness and greater systems control. The modification also improves two common core Line-Replaceable-Units. Normal circuit cards are replaced with circuit cards holding erasable PROMs and gate array modules. Memory is increased 400% and Mean-Time-Between-Failure is increased. Flight testing will be funded with 3010 money as it is operational testing not development testing. Development test has already been accomplished via another platform (AC-130). Articles are not separately priced.</p> <p>(U) <b><u>FY 1998 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$640 Complete CDU development</li> <li>– (U) \$1,213 Complete ECP 93 development</li> <li>– (U) \$1,046 Flight test contractor and range support</li> <li>– (U) \$2,899 Total</li> </ul> <p>(U) <b><u>FY 1999 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$0 Total</li> </ul> <p>(U) <b><u>FY 2000 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$0 Total</li> </ul> <p>(U) <b><u>FY 2001 (\$ in Thousands):</u></b></p> <ul style="list-style-type: none"> <li>– (U) \$0 Total</li> </ul>										

Project 4402
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Exhibit R-2A (PE 0101113F)

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>										DATE <b>February 1999</b>																																																																											
BUDGET ACTIVITY <b>7 - Operational System Development</b>					PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>					PROJECT <b>4402</b>																																																																											
<p>(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u></b>          (U) \$2,899,000 reprogrammed from 3010 to 3600 funds in FY98          (U) Program cancelled in FY00 POM, but may be re-instated in the FY01 POM pending recommendation from bomber roadmap</p> <p>(U) <b>C. <u>Other Program Funding Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 1998</u></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th style="text-align: center;">To <u>Compl</u></th> <th style="text-align: center;">Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Aircraft Procurement (PE 11113F)</td> <td style="text-align: center;">1,750</td> <td style="text-align: center;">4,845</td> <td style="text-align: center;">5,732</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">2,400</td> <td style="text-align: center;">2,400</td> <td style="text-align: center;">0</td> <td style="text-align: center;">104473</td> <td style="text-align: center;">121,600</td> </tr> </tbody> </table> <p>(U) <b>D. <u>Acquisition Strategy</u></b>          The ECM Improvement program placed Boeing, McDonnell Wichita, KS and ITT Avionics Nutley, NJ on Firm-Fixed-Price contracts as Product Development Organizations. Boeing, McDonnell provides the aircraft specific integration expertise, while ITT provides expertise on the ALQ-172 system. They are supported by OC-ALC/LH and WR-ALC/LNR.</p> <p>(U) <b>E. <u>Schedule Profile</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3"><u>FY 1998</u></th> <th colspan="3"><u>FY 1999</u></th> <th colspan="3"><u>FY 2000</u></th> <th colspan="3"><u>FY 2001</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>(U) CDU development</td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) ECP 93 kit development</td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>	(U) Aircraft Procurement (PE 11113F)	1,750	4,845	5,732	0	0	2,400	2,400	0	104473	121,600		<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) CDU development	X				X								(U) ECP 93 kit development	X							X				
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>																																																																											
(U) Aircraft Procurement (PE 11113F)	1,750	4,845	5,732	0	0	2,400	2,400	0	104473	121,600																																																																											
	<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>																																																																											
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Project 4402				Page 13 of 19 Pages				Exhibit R-2A (PE 0101113F)																																																																													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999				
BUDGET ACTIVITY <b>7 - Operational System Development</b>					PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>				PROJECT <b>4402</b>		
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Developmental kit				2,749	0	0	0			
(U)	System Program Office support				150	0	0	0			
(U)	Total				2,899	0	0	0			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
<u>Product Development Organizations</u>											
Boeing Wichita, ITT Avionics	FFP	Oct 96	5,875	0	4,085	1790	0	0	0	0	5,875
<u>Support and Management Organizations</u>											
OC-ALC/LH	PMA	Oct 96	0	234	84	150	0	0	0	0	234
HQ ACC/LGF52	AF Form 616	03 Dec 96	49	0	25	24	0	0	0	0	49
WR-ALC/LNRB	AF Form 616	03 Dec 96	50	0	20	30	0	0	0	0	50
HQ ACC/DOIE	AF Form 616	18 Nov 96	9	0	4	5	0	0	0	0	9
<u>Test and Evaluation Organizations</u>											
36 ETS			1,500	0	600	900	0	0	0	0	1,500
<b>Government Furnished Property: None</b>											
Project 4402					Page 14 of 19 Pages			Exhibit R-3 (PE 0101113F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101113F B-52 Squadrons					PROJECT 4402	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Subtotal Product Development			5,875	0	4,805	1,790	0	0	0	0	5,875
Subtotal Support & Management			108	234	133	209	0	0	0	0	342
Subtotal Test and Evaluation			1,500	0	600	900	0	0	0	0	1,500
Total Project			7,483	234	4,818	2,899	0	0	0	0	7,717

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 1999</b>	
<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>				<b>PE NUMBER AND TITLE</b> <b>0101113F B-52 Squadrons</b>				<b>PROJECT</b> <b>4810</b>	

COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4810 Avionics Midlife Improvement (AMI)	0	0	29,455	39,240	5,486	0	9,771	24,398	TBD	TBD

**(U) A. Mission Description**

The current B-52H Offensive Avionics System (OAS) contains several subsystems which must be replaced. The Inertial Navigation System (INS) includes a spinning mass gyro based on 1960's technology which will soon be unsupportable. The Avionics Control Unit (ACU) is an aging computer system with limited processing capability and memory. The Data Transfer Unit Cartridges (DTUCs) are bulky, unreliable and also based on old technology. The AMI program will use existing technology to replace these systems and the associated software to significantly increase OAS reliability, maintainability, and supportability while increasing capability and reducing operating costs.

**(U) FY 1998 (\$ in Thousands):**

- (U) \$0                      Total

**(U) FY 1999 (\$ in Thousands):**

- (U) \$0                      Total

**(U) FY 2000 (\$ in Thousands):**

- (U) \$12,800      Design and development of Group A Hardware
- (U) \$16,655      Design and development of replacement software
- (U) \$29,455      Total

**(U) FY 2001 (\$ in Thousands):**

- (U) \$29,540      Design and development of replacement software
- (U) \$9,700        Ground and flight test
- (U) \$39,240      Total

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<p>(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u></b></p> <p style="margin-left: 40px;">New start project beginning FY00.</p>																																																																																																																																																							
<p>(U) <b>C. <u>Other Program Funding Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 1998</u></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th style="text-align: center;"><u>To</u> <u>Compl</u></th> <th style="text-align: center;"><u>Total</u> <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Aircraft Procurement (BP1100)</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">26,839</td> <td style="text-align: right;">22,808</td> <td style="text-align: right;">14,513</td> <td style="text-align: right;">15,624</td> <td style="text-align: right;">1,600</td> <td style="text-align: right;">81,384</td> </tr> </tbody> </table>										<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u> <u>Compl</u>	<u>Total</u> <u>Cost</u>	(U) Aircraft Procurement (BP1100)					26,839	22,808	14,513	15,624	1,600	81,384																																																																																																																									
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<p>(U) <b>D. <u>Acquisition Strategy</u></b></p> <p>The AMI program will contract with Boeing Wichita for aircraft hardware integration and software development of the Flight Management System and the Stores Management Overlays. Specific vendors will be selected to provide hardware for use during EMD. The Government will contract with these vendors for production hardware to support the aircraft installations.</p>																																																																																																																																																							
<p>(U) <b>E. <u>Schedule Profile</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3"><u>FY 1998</u></th> <th colspan="3"><u>FY 1999</u></th> <th colspan="3"><u>FY 2000</u></th> <th colspan="3"><u>FY 2001</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>(U) Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Interface Development</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>*</td> <td></td> <td></td> </tr> <tr> <td>(U) Software Development</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Test Planning</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>*</td> <td></td> </tr> <tr> <td>(U) Group A Design</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>*</td> <td></td> <td></td> </tr> <tr> <td>(U) Group A Fabrication</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>*</td> <td></td> </tr> <tr> <td>(U) Trial Install</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>(U) Flight Test</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>(U) Program Office Support</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Contract Award								X					(U) Interface Development								X		*			(U) Software Development								X					(U) Test Planning								X			*		(U) Group A Design								X		*			(U) Group A Fabrication									X		*		(U) Trial Install											X		(U) Flight Test											X		(U) Program Office Support								X				
	<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>																																																																																																																																													
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 1999					
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 Squadrons</b>		PROJECT <b>4810</b>					
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>											
				<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
(U) Prototype Hardware				0	0	4,500	0				
(U) Non-recurring Engineering				0	0	23,955	28,490				
(U) Ground/Flight Test				0	0	0	9,750				
(U) System Program Office Support				0	0	1,000	1,000				
(U) Total				0	0	29,455	39,240				
(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
<b>Performing Organizations:</b>											
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
<u>Product Development Organizations</u>											
Boeing, McDonnell Defense	TBD	FY00	TBD	0	0	0	0	28,385	33,180	TBD	TBD
<u>Support and Management Organizations</u>											
OC-ALC/LH	PMA	Oct 99	0	TBD	0	0	0	1,000	1,000	TBD	TBD
WR/ALC	AF616	TBD	TBD	0	0	0	0	30	30	TBD	TBD
HQ ACC/DRPB	AF616	TBD	TBD	0	0	0	0	30	30	TBD	TBD
<u>Test and Evaluation Organizations</u>											
419 FLTS	Project Order	TBD	TBD	0	0	0	0	10	5,000	TBD	TBD
Project 4810											
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0101113F B-52 Squadrons				PROJECT 4810		
Government Furnished Property: TBD										
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Subtotal Product Development				0	0	0	28,385	33,180	TBD	TBD
Subtotal Support and Management				0	0	0	1,060	1,060	TBD	TBD
Subtotal Test and Evaluation				0	0	0	10	5,000	TBD	TBD
Total Project				0	0	0	29,455	39,240	TBD	TBD

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